<div align="center">**EXAMINER'S AMENDMENT**</div>

1.   Claims 1-3, 5, and 12 are pending in the instant application.

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Van C. Ernest on April 23, 2009.

The application has been amended as follows wherein the following versions of

claims 1 and 12 replace all prior versions in their entirety:

1. A method for correcting impairments on information, passing through an
information transmission system, imposed by a plurality of defective elements of the
information transmission system for generating, transporting, and receiving the
information, the method comprising:

identifying the defective elements imposing impairments on the information and
individually characterizing each defect by performing a frequency analysis of each
defective element;

determining, for each defective element, a frequency characteristic complementary
to said frequency analysis in matrix form, such that a combination of said frequency
analysis and said complementary frequency characteristic, when applied to information
passing through said element, corrects the impairment imposed by said defective
element; and

creating a composite, two channel I and Q finite impulse response filter, having I-I
and Q-Q direct components and I-Q and Q-I cross components, by combining said
complementary frequency characteristics, said filter being positioned in said information
transmission system for correcting said impairments imposed on the information by said

defective elements.

12. In applying a generalized two-channel digital filter to process an input data stream x and to produce an output data stream y, wherein both x and y are two-component signals x_I, x_Q, y_I, and y_Q which are processed in blocks of N/2 data values long, N being a power of 2, and wherein the filter is characterized by four independent impulse response vectors h_{11}, h_{12}, h_{21}, and h_{22}, ~~each vector of length N/2,~~ a method for efficiently computing said output data stream y, comprising the preliminary steps of:

a) forming the vectors

$$a = \frac{(h_{11} + h_{22}) + j(h_{21} - h_{12})}{2} \quad \text{and } b = \frac{(h_{11} - h_{22}) + j(h_{21} + h_{12})}{2}$$

b) appending N/2 zeros to each vector <u>a and b</u> and performing an FFT on each vector <u>a and b</u> to produce A_k and B_k, respectively; and, for each block of N/2 data values in said input data stream x, additionally comprising the iterative steps of:

c) moving ~~the~~ <u>a</u> previous block of input data values to ~~the~~ <u>a</u> first half of an input vector x_N of length N and loading ~~the~~ <u>a</u> current block of input data values into ~~the~~ <u>a</u> second half of said input vector x_N;

d) treating x_N as a vector of complex numbers of the form $x_I + jx_Q$, and performing a N-point FFT to produce X_k;

e) computing the complex vector $Y_k = A_k X_k + B_k X_{N-k}$, <u>wherein</u> $0 \le k < N/2$, and performing an inverse FFT on ~~the result~~ <u>Y_k</u> to produce the complex vector y_n;

f) designating the second half of y_n as the N/2 output samples of the current iteration, according to y_{In} = Real (y_Q), y_n = Imag (y_n), where N/2 $\le$ n < N; and

g) returning to step (c) for the next block of N/2 data values.

Claims 1-3, 5, and 12 are renumbered respectively as claims 1-5, and the claim dependency is renumbered accordingly.

Allowable Subject Matter

3.   Claims 1-3, 5, and 12 are respectively as claims 1-5 are allowed.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JASON M. PERILLA whose telephone number is

(571)272-3055. The examiner can normally be reached on M-F 8-5 EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                                    /Jason M Perilla/
                                                        Primary Examiner, Art Unit 2611
                                                                    April 23, 2009

/jmp/